

# Woody Notes

from the Plant Materials Center, Bismarck, North Dakota

by Mike Knudson, Forester

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## Who We Are

The Bismarck Plant Materials Center (PMC) is one of 27 PMCs operated by the United States Department of Agriculture, Natural Resources Conservation Service.

The Bismarck PMC serves the States of Minnesota, North Dakota, and South Dakota. It is the mission of the plant materials program to develop plant materials and plant science technology for the conservation of our natural resources. The Bismarck PMC was established in 1954 as part of the Soil Conservation Service, now Natural Resources Conservation Service. A principal task of the PMC has always been tree improvement. There is a need to evaluate how different trees and shrubs will perform in various conservation plantings under diverse soils and climatic conditions.

## Staff

Dwight Tober  
*Plant Materials Specialist*

Wayne Duckwitz  
*PMC Manager*

Mike Knudson  
*Forester*

Nancy Jensen  
*Agronomist*

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*Biological Science Technician*

Leslie Glass  
*Secretary*

## An Improved Hackberry

Hackberry has been identified as a tall tree species which can be substituted for green ash, which is threatened by the emerald ash borer. Hackberry has also been identified as attractive to some pollinators. It serves as the larval host for the hackberry butterfly, also known as the hackberry emperor.

In the 1980s, the Bismarck PMC staff worked with Dr. Richard Cunningham of USDA ARS, Mandan, North Dakota, to assemble seed sources of hackberry from throughout the Great Plains. Seed was collected by Soil Conservation Service (now Natural Resources Conservation Service) personnel and sent to the PMC. A large assembly of hackberry seedlings was planted by USDA ARS near Mandan in 1990.

A number of superior seed sources have been identified in recent evaluations of the assembly. These superior accessions were compared to the variety 'Oahe' hackberry, which was released by the PMC in 1982. The best accession in the assembly is ND-3878 from Polk County, Minnesota. It averaged 37 percent taller than Oahe. In April 2008, a 90-inch tree spade was used to move six trees of ND-3878 from Mandan to the PMC in Bismarck. These trees will be used as a seed orchard.

In October 2008, seed was collected from the parent trees at the original collection site along the Red Lake River, near Fisher, Minnesota. The seed was distributed to conservation nurseries in Minnesota and North Dakota. It is anticipated that seedlings will be available for planting in the spring of 2011.



## 'McKenzie' Black Chokeberry

McKenzie black chokeberry (*Photinia melanocarpa* or *Aronia melanocarpa*) was released by the Bismarck Plant Materials Center (PMC) in 2008. Taxonomists disagree on the proper scientific name for this shrub. Although this plant is native to eastern North America, it is widely grown in Europe and Asia. In 1967, the USDA ARS Plant Introduction Station, at Ames, Iowa, received black chokeberry seed from the Stavropol Botanic Garden in Stavropol, Russia, to test in Iowa. This accession was received by the Bismarck PMC in 1976 from the Plant Introduction Station. This selection grows taller than some native seed sources.



Black chokeberry, also known as Aronia berry, has caught the attention of producers in the Midwest. It is also attractive to pollinators. A mature plant at peak bloom period can have as many as 20,000 flowers. People are interested in growing this shrub for the food value of its berries, which are very high in antioxidants. A grower in western Iowa has 17 acres of black chokeberry. Sawmill Hollow Organic Farm hosted the first annual Aronia Berry Festival in 2008. Around 600 people attended. Strawberry Winery, near Sioux Falls, South Dakota, is producing Aronia berry wine.

Currently, bareroot seedlings of McKenzie black chokeberry are available from Big Sioux Nursery, Watertown, South Dakota, and Lincoln-Oakes Nursery, Bismarck, North Dakota. Seed is available from the PMC.

## PMC Releases

The Bismarck PMC has released the following trees and shrubs. Most of them are cultivars, but several are tested genotypes. Informational brochures which describe the plant and its potential uses are available on request. Bareroot seedlings for most of these releases are available from selected conservation nurseries. Limited amounts of seed for some of these releases are available. If interested in brochures, seed, or seedlings, contact the PMC at (701) 250-4330, or contact Mike Knudson via email at [mike.knudson@nd.usda.gov](mailto:mike.knudson@nd.usda.gov).



- 'Midwest' Manchurian crabapple
- 'Cardan' green ash
- 'Oahe' hackberry
- 'Sakakawea' silver buffaloberry
- 'Centennial' European cotoneaster
- 'McDermid' Ussurian pear
- 'Homestead' Arnold hawthorn
- 'Regal' Russian almond
- 'Legacy' villosa lilac
- Silver Sands germplasm sandbar willow
- Survivor germplasm false indigo
- 'Prairie Red' hybrid plum
- 'McKenzie' black chokeberry

*Contact Information:*  
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Bismarck, ND 58504  
(701)250-4330

<http://Plant-Materials.nrcs.usda.gov/ndpmc>

# Riparian Shrub Releases

## from the Bismarck Plant Materials Center

Dwight Tober, Mike Knudson, and Wayne Duckwitz  
 USDA-Natural Resources Conservation Service, Bismarck, North Dakota

### Survivor Germplasm false indigo (*Amorpha fruticosa*)

- tested class germplasm release originating from Idaho
- 3 - 10 feet tall in northern climates
- bright green foliage with purplish-blue flowers
- fruits are a single smooth brownish seed in a pod
- deep, fibrous roots bind sandy soils
- broadly adapted to wet or dry well-drained sites
- nitrogen-fixing legume with excellent establishment and growth
- has the ability to "survive" inundation, covering by sedimentation, girdling by animals, and competition with smooth brome grass (*Bromus inermis*)



Photo credit: Mike Hallock



**Special Use:** streambank erosion control and lakeshore stabilization; wildlife cover

### Silver Sands Germplasm sandbar willow (*Salix interior*)

- tested class germplasm release originating from native collections by Bill Smith near Charles City, Iowa
- 3 - 15 feet tall depending on site conditions
- silvery-blue leaves turning yellow-gold in fall
- male clone, vegetatively propagated
- strongly suckering, forms thickets
- prefers wet sites in alluvial bottoms or along streambanks
- resilient to flood waters, sediment deposition, and browsing from wildlife



**Special Use:** streambank erosion control and lakeshore stabilization; wildlife cover

### 'McKenzie' black chokeberry (*Aronia melanocarpa*)

- formal cultivar release originating from plants received from the USDA-ARS Plant Introduction Station at Ames, Iowa
- 5 - 10 feet tall depending on site conditions
- open, upright, and often leggy growth habit
- width often exceeds height after 10 years
- leaves turn a dark glossy green as the season progresses
- white flowers develop into pendulous clusters of ½-inch purplish-black fruit high in antioxidants and anthocyanins
- leaves turn a reddish-orange color in fall



**Special Use:** fruit production; landscaping; single row wind barriers

### 'Prairie Red' hybrid plum (*Prunus* x 'Prairie Red')

- formal cultivar release collected from a specimen tree at the Wilford Hermann farm near Miller, South Dakota
- 10 - 15 feet tall on favorable sites
- open canopy with smooth branches becoming spiny as they mature
- moderately suckering and may form thickets
- white flowers with 5 petals
- fruit size may be as large as 1.5 inches in diameter
- plant size and fruit size vary depending on the site and landscape position
- stem density and degree of suckering is generally less than American plum



**Special Use:** fruit production; wildlife cover